

TERRA COTTA WARRIORS

GUARDIANS OF CHINA'S FIRST EMPEROR

A Resource Guide for Students and Teachers

NATIONAL
GEOGRAPHIC

MUSEUM

China in Asia





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Bowers Museum
Houston Museum of Natural Science
National Geographic Museum

National Geographic Museum
1145 17th Street NW
Washington, DC 20036
www.ngmuseum.org

Funded by The Boeing Company



*An assembled life-size
archer from the terra
cotta army. He once
held a crossbow
in his hands.*



Introduction

The Army of the Terra Cotta Warriors, first discovered in 1974, is now recognized as the eighth wonder of the ancient world. Over 7000 life-size figures of soldiers, charioteers, archers, and cavalymen were buried 2200 years ago in three large pits to guard the tomb of one of the most important rulers of the ancient world, the First

Ruler of the Qin dynasty in China. We get our name China from the name of his dynasty, and much of what he accomplished influenced the way of life in China for the next 2000 years.

In the coming years, China will become increasingly important in our own future. We need to know more about its history and culture in

order to understand it better and to help establish a mutual friendship. Following the terra cotta army, the First Emperor, and what he hoped to accomplish, can lead to a wonderful journey of learning about China.

Albert E. Dien, Ph.D.
Professor Emeritus
Stanford University

Bowers Museum, in conjunction with the Houston Museum of Natural Science and National Geographic Museum, have designed ***Terra Cotta Warriors: Guardians of China's First Emperor*** as a guide for teachers and students who will be visiting the exhibition, *Terra Cotta Warriors: Guardians of China's First Emperor* (May 18, 2008 – October 12, 2008). Working from the principle that the more you know about something, the better you will understand it, using this guide will give you a richer experience as you tour the museum. We hope it will help your students feel comfortable and at home in the exhibition and excited to see history come alive.

The guide is composed of three sections. Begin by sharing the story with your students! Listening to the CD of *The Warrior with the Smiling Moustache* engages the students. This will set the stage for learning about the history, participating in the activities included in the guide, and heightening anticipation prior to visiting the exhibition.

The second section presents a historical perspective offering background information about the First Emperor and the Qin dynasty. Grounded in this rich period of history, your visit through the gallery becomes an exciting experience. The third section, Student Activities, sets the stage as both a follow-up and conduit to learning about this

most interesting history. These varied classroom and independent activities will serve to sharpen the students' knowledge and greatly enhance their experience during the visit. The activities will also help them relate the culture and civilization of China's Qin dynasty to life in Southern California in the 21st Century, and reinforce what they learn at Bowers Museum.

When your students visit the museum, our hope is that this background information will have them saying, "Oh yes! I know about that!" as they view the artifacts.

Education Department
Bowers Museum

Book Your National Geographic Museum Visit Today!

November 19, 2009 – March 31, 2010

School Group Booking Information

This curriculum guide was specifically designed to prepare students for a visit to the National Geographic Museum exhibition *Terra Cotta Warriors: Guardians of China's First Emperor*. Featuring one of the most significant archaeological discoveries of the 20th century, this exciting exhibition showcases 100 objects, including 14 life-size terra cotta figures, two half-size wooden chariots, and life-size bronze animals, all from the tomb complex belonging to China's first emperor, Qin Shihuangdi (259-210 BC).

To book a group, please call 202.857.7281. For more information about the exhibition, please visit www.ngmuseum.org.

School Group Pricing

\$6 each, one adult free for every 10 students

Group Benefits

- Discounted tickets
- Advance booking opportunity
- 10% discount in the exhibition gift shop for every group member

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Contact Numbers

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Colored pigments still cling to the face of this terra cotta soldier, buried to accompany China's first emperor, Qin Shi Huang, in the afterlife





Terra Cotta Warriors: Guardians of China's First Emperor

*Battle-ready, an army takes
position for eternity in a flat
roofed-vault. Artist rendering
by Hsien-Min Yang.*

Imagine descending down a ramp into a dark, earthen pit. Out of the silence you think you hear the exhale of a horse. As you reach in that direction, you feel the form of a human face. Then you turn quickly as you think you hear the scrape of a sword being pulled from its case. Fear grips you in your uncertainty. As your eyes adjust to the darkness, you slowly perceive the outline of human forms — rows and rows of clay warriors,

standing in silence, ready for battle. The army stretches as far as you can see. You are sure that you hear the rustle of armor, the click of metal.

This army is one of the most impressive armies of all time. It has been battle ready for over 2200 years. It was created by Qin Shihuangdi (Qin Shihuangdi sounds like: Chin Shhr Hwong Dee), the First Emperor of the Qin dynasty, to protect him in the afterlife, throughout eternity.

It remained unknown for centuries until it was discovered in 1974 by peasants digging a well for water about 20 miles east of the city of Xi'an, in central China. Since then three more warrior pits have been found nearby. One of them was empty, telling us that the complex was probably not complete when the emperor died. There has never been found such a massive artificial army from any other time in history.

Today, the Museum of Qin Terra Cotta Warriors and Horses covers three acres containing three modern buildings. It is a unique museum where people come not only to see the warriors, but to also observe an archaeological dig site as scientists excavate the warriors from their burial chambers. Only a small fraction of the warriors have been excavated due to the painstaking care required to preserve their grandeur. It will take much longer to excavate the army than the 36 years it took to create it.

The tomb of Qin Shi Huang is about 1/4 of a mile away from the warriors' pits. What appears to be a hill (actually an artificial mound, or tumulus) in the middle of a peaceful corn field is the First Emperor's burial mound which is about 150 feet high with three levels. Around the outer area had been a stone wall 23 feet thick with four corner watchtowers. The walls of the inner city were 1/4 mile long on each side. The inner tomb remains as it was left 2200 years ago with Qin's coffin in the middle.

The pits of the warriors are east of the First Emperor's tomb to protect him from his enemies to the east. The tomb is protected by the mountains to the south (Mt. Li) and west (Qinling Mountains); water to the north (Wei River); and to the east is the Great

Central Plains. There are believed to be at least 600 pits and tombs in all, covering 56 square kilometers (22 square miles). The warrior pits alone cover an area of over 25,000 square meters (29,900 square yards). It is believed that it took over 700,000 workers to complete the necropolis.

The terra cotta warriors are considered one of the most important archaeological discoveries of all time. They give us valuable information about the history of China. UNESCO (United Nations Educational Scientific and Cultural Organization) has put Qin Shihuangdi's tomb on its cultural heritage list. The international organization makes sure that historical sites are preserved. The First Emperor's tomb has not been excavated. Archaeologists are waiting until it can be dug safely without hurting the precious objects inside.

The tombs reproduce the realities of life for aristocrats in China in 200 BCE. Qin started building the tombs as soon as he became king of the state of Qin. Chinese leaders before him had built elaborate tombs with the belief that they could continue to rule forever in the afterlife, but none came close to the detail and magnitude of Qin's. It is estimated that there were over 7,000 warriors, more than 600 horses, 100 chariots, and uncountable



Chariot horses of the terra cotta army or part of its cavalry

Guard in head armor, armor made of pieces of limestone secured by bronze thread

weapons. Each warrior is a few inches larger than real life.

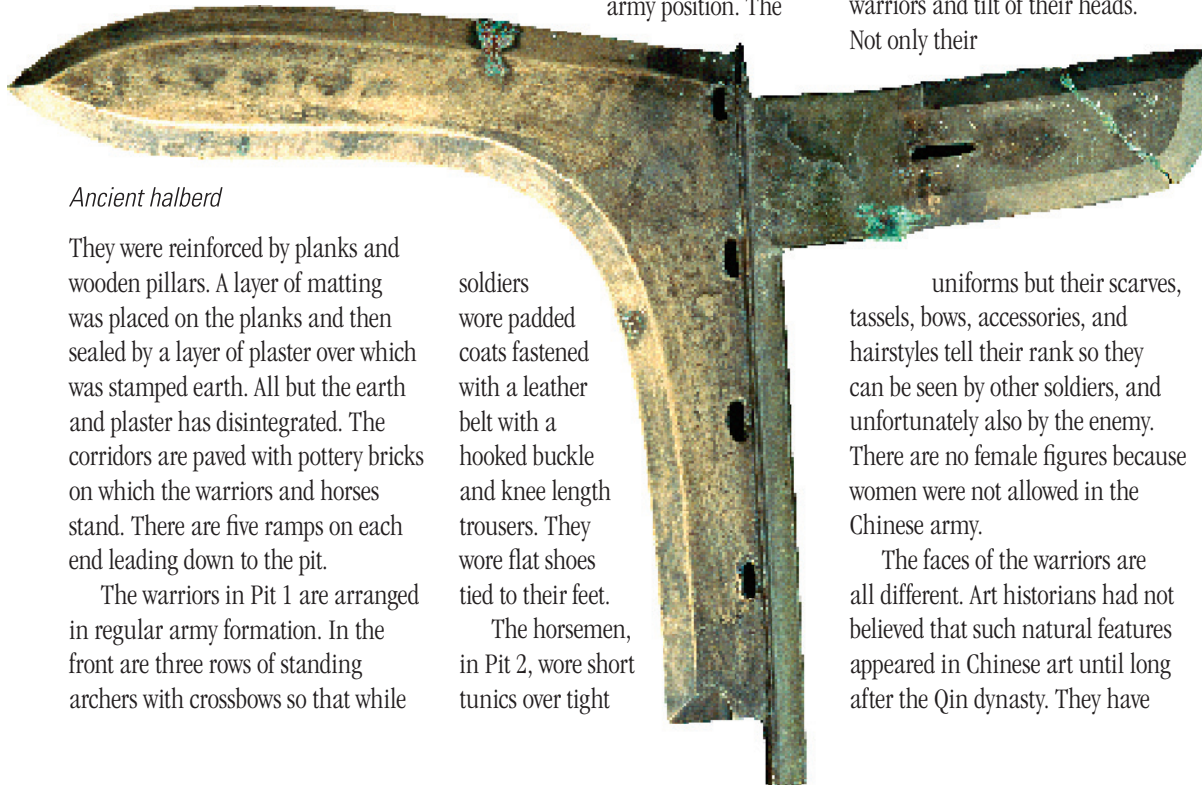
The warriors are arranged in the pits to protect the emperor from anyone who invades his tomb. Each pit lies 15 to 20 feet below current ground level and was constructed with the figures placed in corridors separated by earthen walls. Pit number 1 is the largest pit. It is 252 yards long and 68 yards wide with nine corridors which are about 11' 4" wide. The ceilings were made of large tree trunks which rested on the partitions and outer rims.

one row was firing, the others were reloading. These wore no armor. The armored infantry line the corridors with spears, halberds, and battle axes. These are led by officers on chariots carrying the bell and drum used to give orders during battle. Troops are defended at the sides and rear by archers and crossbowmen facing outwards.

The positions of the bodies and hands of the warriors tell the type of weapons they used, although most of the original weapons were deteriorated. Their uniforms tell their army position. The

pants. Armor was made in overlapping plates probably made of lacquered leather representing fish scale designs. The cavalrymen wore light armor, and they wore a cap of leather. Officers wore more ornate armor and headgear. The infantry wore boots, some with upturned toes. Although the colors on the warriors' uniforms have since faded, they were very bright and mixed. Color did not signify rank, so the final effect was a dazzling array of a real army of individual people.

One can almost perceive movement by the positions of the warriors and tilt of their heads. Not only their



Ancient halberd

They were reinforced by planks and wooden pillars. A layer of matting was placed on the planks and then sealed by a layer of plaster over which was stamped earth. All but the earth and plaster has disintegrated. The corridors are paved with pottery bricks on which the warriors and horses stand. There are five ramps on each end leading down to the pit.

The warriors in Pit 1 are arranged in regular army formation. In the front are three rows of standing archers with crossbows so that while

soldiers were padded coats fastened with a leather belt with a hooked buckle and knee length trousers. They wore flat shoes tied to their feet.

The horsemen, in Pit 2, wore short tunics over tight

uniforms but their scarves, tassels, bows, accessories, and hairstyles tell their rank so they can be seen by other soldiers, and unfortunately also by the enemy. There are no female figures because women were not allowed in the Chinese army.

The faces of the warriors are all different. Art historians had not believed that such natural features appeared in Chinese art until long after the Qin dynasty. They have



been astonished at the expressiveness of their faces. One feels that this exhibit is not about an emperor. Its importance lies in celebration of the lives of the individuals who built this empire.

Not only are there warriors but chariots and their horses are positioned throughout the rows of warriors. There are four horses for each chariot. The horses' features are

so true to life that they appear alert to commands from their charioteers. Some of the pieces of the chariots are actually moveable. They were used in battle on inspection tours of the army. The horses with the chariots are tarpans, small horses which are now extinct.

In addition to the army for protection, the First Emperor had pits created which contained many other



*Back of head,
showing hairstyle of
terra cotta warrior*

consisting of managers, overseers, and workmen. For 36 years they worked on this feat of mass production. The figures include high ranking officers, officers, armored and unarmored infantry, charioteers, cavalymen, kneeling and standing archers.

The clay for the figures must have come from Lishan, (Mt Li) the mountain at the foot of which stands the emperor's tomb. It was combined with ground quartz. The average weight of the warriors is about 200

kilos (440 pounds), and the average height is 1.8 meters (5.9 feet).

The legs and feet of each warrior are made of a solid base of clay to give the figure support. Above the legs the body is hollow. The torso was built up with coiled clay. The head, arms and hands were modeled separately and then attached to the body with clay coils. They were made from an ancient molding technique. The unique faces of each warrior may have been copied from live humans believed to be his actual army. The facial features were created using fine

artist's tools such as sharp bamboo. Eyebrows, beards, and mustaches were carefully crafted. Hair and hats were modeled by hand and added separately. Clothes and armor were also hand finished. Each warrior was covered with lacquer and then colored with paint made from minerals.

The statues were fired at a much higher temperature than previous methods utilized, thus making it possible for them to survive for 2200 years. Horses were fired in one piece except for their tails and forelocks.



Types of soldiers found in pits

types of figures — courtiers, civil officials, musicians and acrobats. The entertainers are sculpted as if in mid-performance. A variety of birds are with the musicians as if they were trained to dance with the music. Most figures are models, but there were also found some small coffins containing the bones of birds and other animals. Also discovered was a stable containing the bones of real horses, with clay figures of grooms to

keep them fresh. We can imagine the First Emperor being prepared for a great hunting trip as well as for battle.

When Qin Shi Huang became king he assembled a group of artisans to create his tomb and underground army to protect him throughout eternity. His officials combined technology from other crafts to organize factories throughout the area with teams

Archer's shoe showing details of hemp sole



beads and bronze bits have survived. Few of the statues have been found intact due to an invasion of the tombs soon after he died. In addition to what was plundered, the roof was burned and fell, smashing most of the statues.

Each statue bears an inscription of one of the 87 foremen in charge of the construction of the army. Some worked for state workshops run by the central government. Some worked for non-government workshops. It is estimated that there were about 1530 craftsmen altogether who worked on the warriors. Each inscription tells the name of the workshop, the master artist, the office supervisor, and the

year of the First Emperor's reign that it was created. The inscriptions are found hidden on the statues, engraved or written with brush and black and red ink.

Hundreds of bronze swords, halberds, daggers, and battle axes and thousands of arrowheads have been found mixed with the scattered pieces of the warriors. The swords and the tips of the arrowheads are still razor sharp. Some swords are made of an alloy of cooper, tin and 13 other elements including nickel, magnesium and cobalt. They are still covered with a coating of oxidized chrome, a true marvel of technology for any age. Probably the most amazing weapon of the time was the crossbow which used a three-part mechanism.

The tomb of the First Emperor is believed to be a vast underground palace and will most likely prove to be one of the greatest marvels of all time when it is excavated. No documents from the Qin dynasty survive, so we must rely on a description written 100 years later by Sima Qian, the official historian of the Han dynasty. Of course, he had a strong bias so we must be careful in reading what he says. He relays that over 700,000 conscripts were used to build the compound. Sima Qian wrote,

"As soon as the First Emperor became king of Qin, excavations and building had been started at Mount Li, while after he won the empire, more than 700,000 conscripts from all parts of the country worked there. They dug through three underground streams and put down bronze for the outer coffin, and the tomb was filled with models of palaces, pavilions and offices as well as

fine vessels, precious stones and rarities. Craftsmen were ordered to fix up crossbows so that any thief breaking in would be shot. All the country's streams, the Yellow River and the Yangtze were reproduced in mercury and by some mechanical means made to flow into a miniature ocean. The heavenly constellations were above and the regions of the earth below. The candles were made of man-

fish oil to ensure them burning for the longest possible time."

It is believed that the emperor's burial chamber itself is 30-40 meters (32.8 yards-43.7 yards) below the original ground level. Soil tests reveal high levels of mercury, so archaeologists are delaying excavation of the site until methods are developed to preserve what will be found there. For generations to come



A bundle of bronze arrows found at the site of the terra cotta warriors in Xi'an, China. The bronze arrow tips survived, while the wooden shafts have disintegrated.



*Details of warriors and
horses found in the tomb*



*An archer lies in partly excavated
section of Pit 2*

Pronunciation Guide To Chinese Sounds

Chinese names and places are Romanized (written in the Roman alphabet) according to the *pinyin* system, the standard

form used throughout China to write Chinese in English. (Please note that Taiwan still uses the older Wade-Giles system.)

Consonants

C	ts
Q	ch
X	sh
Z	dz
Zh	j

C	
Cong	tsong
Cizhou	Tsi-jo

X	
Xi'an	Shee-an

ZH	
Zhou	Jo
Zhang	Jang

Vowels

a	a, as in Alice
e	u, as in sung
i	ir, after certain consonants (shi, chi, zi, zhi)
	Ee, after others (di, zi, bi)
ian	yen
ou	o, as in toe
u	oo
ua	wa
ui	way

Speak Chinese

Hello!

Ni hao! (Nee haow)

How are you?

Ni hao ma? (Nee haow ma?)

I am (insert your name)

Wo shi . . . (for girls)

Wo shir . . . (for boys)

I like you

Wo xihuan ni

(Wo shee-hwang nee)

She/He is Chinese

Ta shi Zhongguoren

(Ta shir Jong-gwo-rin)

I am not Chinese

Wo bu shi Zhongguoren

(Wo boo shir Jong-gwo-rin)

I am American

Wo shi Meiguoren

(Wo shir May-gwo-rin)

I want to go to China

Wo yao qu Zhongguo

(Wo yaow choo Jong-gwo)

I like Chinese art

Wo xihuan Zhongguo meishu

(Wo shee-hwang jong-gwo may-shoo)

Glossary

Bi — a disc form usually made of jade, from the Neolithic period onwards as a ritual object used in burials. The significance of the form is not entirely clear, though its round form may symbolize heaven.

Buddhism — a religion based on the teachings of the Buddha, the “Enlightened One,” who lived in northern India in the 6th century BC. He taught that suffering is caused by attachment or clinging, and advocated living a life of moderation, non-attachment and compassion.

Calligraphy — literally, “beautiful writing,” one of the most respected art forms in China. Chinese characters are written with a brush and ink on paper or silk in a number of different styles.

Celadon — a high-firing, greenish glaze that derives its color from tiny quantities of iron oxide that turn the glaze green in an oxygen-starved kiln atmosphere.

Confucianism — a philosophy based on the teachings of Confucius, who lived in China in the 6th century BC. He taught the importance of relationships, particularly between ruler and subject and parent and child, and the need for benevolence on the

part of the ruler and parent, and respect on the part of the subject and child.

Cong — a cylinder with a square cross-section made of jade and used in burials. The significance of the form is not entirely clear, though its form may represent heaven (round) and earth (square).

Daoism (pronounced Dow-ism, also spelled Taoism) — an ancient Chinese philosophy based on the concept of the Dao, or “Way,” a force that animates the universe and inhabits all things. The philosopher Laozi, who lived in the 6th century BCE, is believed to have written the *Daode jing*, a text which taught the importance of living in harmony with the Dao.

Ding — ancient tripod vessel used in burials to contain wine for the deceased.

Divination — the art of predicting future events using supernatural powers.

Dynasty — a succession of rulers who belong to the same family and rule over generations.

Earthenware — a low firing clay (up to 1,000°C) resulting in porous, less durable ceramics such as roof tiles, flower pots, etc. Usually unglazed.

Glaze — a glassy coating added to ceramics for protection and decoration.

Han Chinese — an ethnic group originating in China and constituting 92% of the population of China, a total of about 1.3 billion people.

Huaniao — literally, “bird and flower,” traditional Chinese paintings of birds, flowers, insects and other details of nature.

Jingdezhen — a city in Jiangxi province in southern China that has produced the bulk of China’s porcelain since the 11th century AD.

Lacquer — a coating made from the sap of the lacquer tree (*Rhus verniciflua*), which is applied to objects to make them resistant to water, heat, acid and insects. It is often colored — for example, black, red and green — and decorated with painted, carved or inlaid designs.

Manchus — a northern nomadic people from Manchuria, who conquered the Han Chinese and established the Qing dynasty in 1644. They considered themselves descendants of the Mongols.

Mongols — a nomadic people who originated in the Central Asian plateau, north of the Gobi desert and south of Siberia, in what is

now Mongolia, China and Russia. Under the leadership of Genghis Khan (c.1160–1227), the Mongols created the second largest empire in world history, extending from Manchuria in the east to Hungary in the west. They ruled China under the Yuan dynasty (1279–1368).

Nomadic — a lifestyle that involves moving from place to place, usually according to the seasons, in search of food and water for oneself and one’s herds of animals.

Neolithic Period — literally, “New Stone Age,” the period of transition from a nomadic, hunting existence to a more settled, agricultural lifestyle.

Oracle Bones — Animal bones and shells used in divination. Questions were written on them in China’s earliest form of writing and heat was applied to create cracks which were believed to provide answers to the questions.

Pictograph — literally “writing with pictures,” ancient script made up of pictures that evolved into a written language.

Porcelain — a high-firing clay (c.1300°C) resulting in a pure white, translucent, ringing, non-porous, highly durable ceramic, usually glazed and decorated with

under- and over-glaze designs.

Sancai – literally, “three-color,” – a type of decoration seen first on Tang dynasty burial ceramics, usually made up of green glaze (from copper), a yellowish glaze (from iron) and the white of the clay beneath a transparent glaze.

Silk Road – a network of trade routes that extended from China through Central Asia and the Near East all the way to Rome from the 1st to 12th century AD.

Shansui – literally, “mountain and water,” traditional landscape paintings.

Stoneware – a medium-firing clay (1,000-1250°C), resulting in non-porous, fairly durable ceramics which are usually glazed.

Taotie Mask – a monster face found on early bronzes, jades and other burial objects, probably with a protective function.

Wenren – literally, “person of literature,” a scholarly gentleman who has mastered the arts of poetry, painting, calligraphy and music.

Zhong – an ancient bronze bell with flat sides that are struck with a hammer, usually played in sets.

Books for Teachers and Books and Magazines for Children

Teachers

Chase, W. Thomas, *Ancient Chinese Bronze Art: Casting the Precious Sacral Vessel*, New York: China Institute of America, 1991.

Clunas, *Art in China* (Oxford History of Art Series), Oxford/New York: Oxford University Press, 1997. This is a good paperback introduction to Chinese art and culture.

Hutt, Julia, *Understanding Far Eastern Art*, Oxford: Phaidon, 1987. Though out of print, this can still be found at used book stores and websites. It gives good, clear explanations of the arts of silk, porcelain, jade, lacquer and painting in East Asia.

Los Angeles County Museum of Art, *The Quest for Eternity: Chinese Ceramic Sculptures from the People's Republic of China*, Los Angeles/San Francisco: Los Angeles County Museum/Chronicle Books, 1987. A good introduction to ancient Chinese burials and burial ceramics.

McArthur, Meher, *Asian Art: Materials, Techniques, Styles*, London: Thames & Hudson, 2005. This book is divided into ten chapters introducing ten different Asian art materials – jade, silk, porcelain, lacquer, ivory, bamboo, paper, gold, wood and stone.

Rawson, Jessica (ed.), *The British Museum Book of Chinese Art*, London: The Trustees of the British Museum, 1992. This volume is particularly helpful on jades, bronzes and ceramics, with very useful chronologies, glossaries and other appendices.

So, Jenny F., ed., *Music in the Age of Confucius*, Washington D.C.: Smithsonian Institution, 2000.

Waley, Arthur, trans., *The Analects of Confucius*, New York: Vintage Books, 1989.

Children

Bramwell, Neil D., *Ancient China*, Berkeley Heights, New Jersey: MyRoprtLinks.com Books, 2004.

A Coloring Book of Ancient China, Santa Barbara, CA: Bellerophon Books, 1985. This coloring book includes line drawings of emperors, empresses, bronze animals and handscrolls.

“China’s First Emperor: Shi-Huangdi.” *Calliope*, A Cobblestone Publication (October 1997). This issue focuses on the first Chinese emperor, from his birth to his rise to power.

Fang, Marisa Lin, and Jung, Helen Ma, *Far East Chinese Culture for Children*, Far East Children’s Books, 2004.

“The Han Dynasty.” *Calliope*, A Cobblestone Publication (October 1998). This issue explores the Han dynasty, including the arts, technology and creative minds of the period.

Shuter, Jane, *Ancient China*, Chicago: Heinemann Library, 2006.

Tracy, Kathleen, *The Life and Times of Confucius*, Mitchell Lane Publishers. 2005.